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PROJECT SAFEGUARD

SAFE PESTICIDE PRACTICES. SAFETY HANDBOOK

ENVIRONMENTAL PROTECTION AGENCY

PREPARED FOR
DEPARTMENT OF AGRICULTURE

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PROJECT SAFEGUARD

SAFE PESTICIDE PRACTICES

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SAFETY HANDBOOK

A COOPERATIVE EFFORT BY THE

U.S. ENVIRONMENTAL PROTECTION AGENCY
U.S. DEPARTMENT OF AGRICULTURE
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SAFETY HANDBOOK

PROJECT SAFEGUARD:
SAFE PESTICIDE PRACTICES

U. S. ENVIRONMENTAL PROTECTION AGENCY
U. S. DEPARTMENT OF AGRICULTURE
} Cooperating

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PROJECT SAFEGUARD: SAFE PESTICIDE PRACTICES

SAFETY HANDBOOK

FOREWORD

Project Safeguard, a program on pesticide safety sponsored by the U. S. Environmental Protection Agency and the U. S. Department of Agriculture, seeks to protect you and the environment.

As you may know by now, the Federal Government has banned most uses of DDT in this country. It is being replaced by chemicals that have less long-term, residual effects on the environment. Most of these chemicals are more dangerous, but they can be used safely.

Your job in Project Safeguard will be to visit with your friends and your neighbors who will be using pesticide poisons. You will carry the message of safe pesticide practices to them.

USE OF HANDBOOK AND PRESENTATION OF MATERIALS

1. Introduction -- Use of Handbook

This handbook contains 12 lessons, each dealing with basic information about pesticide safety. The material can help you to explain the basic points of pesticide safety.

A. The lessons are easy to follow and easy to remember.

B. Read each one carefully. As you read try to recall similar things that have happened to you.

C. When you finish reading each lesson, look at the boxed "WHAT DO YOU KNOW" section. Read each statement carefully. Try to recall a time when the statement applied to you or to someone you may know or have heard about.

D. This simple exercise will make it easier for you to remember the most important points of each lesson when you talk with others.

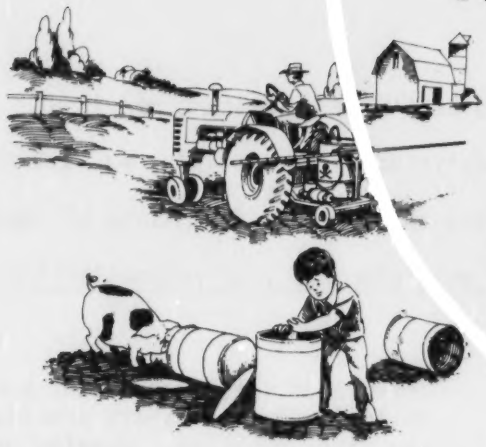
2. Using the Materials

As was mentioned earlier, your job will be to talk to your friends and others and get them to start being more careful while working with pesticide poisons. The safety handouts will help you to do this.

A. Give each person a copy of the Handout. In your own words, tell him what each picture and statement means. The 12 lessons you have studied will help you here.

B. Tell the person to see the County Extension Agent if he has any questions that you cannot answer.

C. You may also want to refer him to other sources of information. A list of these sources is shown in Appendix A at the end of this Handbook.



INDIVIDUAL RESPONSIBILITIES

We have a real job ahead of us this year. The attitude you take and the effort you make will decide whether a loved one, a close friend, or for that matter, you, are saved from a tragic or fatal poisoning.

DDT can no longer be used on most crops. It is being replaced by many pesticide poisons that are more dangerous. Their use will require extra caution on your part.

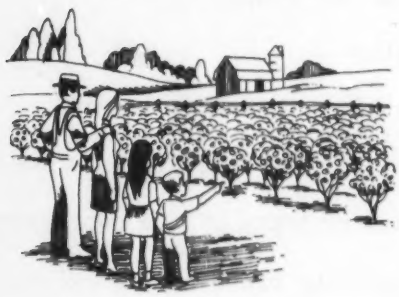
Right about now you may be saying to yourself -- "Heck, this pesticide poison stuff is nothing new to me," -- and you're probably right. Yet how many of us double check to see that we're <u>always</u> doing things right?

1. Do we always ask someone who knows about the pesticide poison that will work best on our crops?
2. Do we always check the labels?
3. Do we always use protective clothing and equipment?
4. Do we always store pesticide poisons safely?
5. Do we always properly dispose of empty poison containers?
6. Do we always double check familiar brand names? Although the name is the same, they may now contain other chemicals -- some so hazardous that less than one drop in your system could kill you.

If you aren't following safe pesticide practices, now is a good time to start. Handling pesticide poisons safely may save someone's life and also keep you from having to pay fines for misuse of these poisons. Remember, safe use of pesticides is your responsibility.

The use of safety equipment and following proper safety procedures can keep you alive. Wearing proper gear can help protect you and may even save your life.

What about you? You're a professional too! Aren't you entitled to protection on your job?



Your well being and that of your loved ones is up to you. You have the most control over your own actions. You have the most to gain.

Or, you have the most to lose.

Again, remember -- your attitude and actions may save someone from a tragic or fatal poisoning.

WHAT DO YOU KNOW (Read each statement. Consider how it applies to your job.)

1. While brand names may stay the same, the product may contain different chemicals.
2. When working with pesticides this year, you will need to take greater care than you have in the past.
3. Experts like the county extension agent should always be contacted when you have questions on the use of pesticide poisons.

SAFE PESTICIDE USAGE

Always remember that pesticides are poisons and can be harmful -- or even fatal -- if handled carelessly or misused.

Safe use of pesticides is everyone's responsibility. As the user, however, you have the major responsibility. This begins the day you select and buy a pesticide poison and continues until the empty container has been disposed of properly. Your County Extension Agent can help you choose the proper pesticide poison for the pest you wish to control, and also help you decide when to use poison.

Before using any pesticide poison, be sure and read the label carefully. The label gives you some idea of the hazards involved. Those poisons that have "DANGER-POISON" on the front are very poisonous if you get them on your skin or breathe or eat them, and could kill you. Poisons that have "CAUTION" on the label could harm you if the poison is eaten or grossly misused. Labels that have "WARNING" are poisons that are in between the other two and can be quite hazardous. Follow the instructions for mixing, handling, and applying. Be sure -- don't guess.

THE FOLLOWING SAFETY GUIDES WILL HELP

1. Always read and follow the label instructions before using a poison.
2. Use pesticide poisons only for the purposes given on the label.

3. Keep pesticide poisons in the original labeled container and store in a locked, well-ventilated building. (Don't Poison Your Children!)
4. Keep poison application equipment in good repair and adjust carefully to help ensure proper dosage.
5. Mix pesticide poisons carefully, keep off your skin and avoid breathing dust or fumes.
6. If you get pesticide poison on your skin or clothing, immediately remove the clothing and take an all-over bath (wash your head) using plenty of soap and water.
7. During application, stay out of the spray drift. Don't apply when wind is high. Keep people and livestock away from spray area.
8. Have someone keep an eye on you when you apply dangerous pesticides.
9. When you finish the job, wash immediately with soap and water -- DO NOT smoke, eat, or drink without washing first.
10. Do not immediately re-enter poisoned fields, or permit other people to do so without protective equipment. Also, keep livestock out.
11. Never allow children to play around treated fields or pesticide poison mixing, storage, and disposal areas.

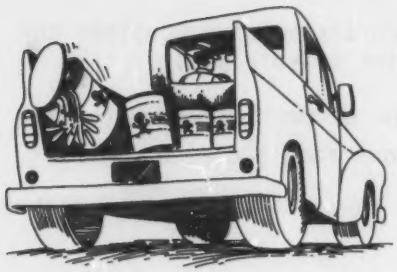
WHAT DO YOU KNOW (Read each statement. Consider how it applies to your job)

1. The major responsibility for safe pesticide poison usage rests with the user.

2. Your responsibility for safe pesticide usage begins when you select and buy a pesticide and ends when the empty container is disposed of properly.

3. Specific or exact information on pesticide usage can be obtained from your county extension agent, dealer, or chemical salesmen.

Safe Transport of Pesticides



Transporting pesticide poisons can result in broken containers and spills unless care is taken.

1. When transporting pesticide poisons to your farm don't carry them near your groceries. You could poison your food.
2. Don't carry your pesticide poisons with feed or mash for livestock. You could get them mixed up and kill the livestock.
3. Don't allow children to ride near poisons. A spill could result in injury or death.
4. Place poison containers so they do not shift, roll around or bounce while they are being hauled.
5. If any pesticide poison is spilled, clean it up immediately, being careful to not get any on your skin or clothing.
6. Do not carry poisons inside your truck cab or car. Pesticide poisons spilled on seat covers are very hard to remove.

WHAT DO YOU KNOW (Read each statement. Consider how it applies to your job)

1. Careless transportation of pesticide poisons can result in poisoning your food and feed.
2. Keep pesticide poison containers from moving about when hauling.
3. Pesticide poisons should not be carried inside the truck cab or car.

SAFE STORAGE OF PESTICIDES

Improper storage increases the possibility of injury to children and livestock.

THESE SAFE PROCEDURES WILL HELP REDUCE HAZARDS

Storage

1. Store all pesticide poisons in a well-ventilated, locked building. Packages that are likely to be damaged by dampness should be kept off the floor.
2. Poisons should be kept in tightly closed, original containers. The label gives information needed in case of accidents. Deaths have resulted from children drinking pesticides stored in coke or milk bottles.
4. Do not store clothing, respirators, lunches, cigarettes, or drinks with pesticide poisons. They may pick up poisonous fumes or dusts or soak up spilled poisons.

5. Keep soap and plenty of water handy. Seconds count when washing poisons from your skin.

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. The storage area must be kept locked.
2. The original container has safety information needed in case of accidents.
3. Children should be kept out of places where pesticide poisons are stored.

PERSONAL PROTECTIVE EQUIPMENT

Protective clothing and safety equipment will help to keep you from being poisoned.

The type of protective clothing and equipment needed depends on the job being done and the type of poison being used. Many pesticide poisons are more apt to enter the body through the skin than any other way.

Protection During Application

1. Clean clothing -- long sleeves, full skin coverage, closed at neck, wrists and pant legs outside boots.
2. Waterproof gloves with long, tight-fitting wrists.
3. Wide-brimmed hat.
4. Waterproof boots (no canvas or leather shoes).

Protection During Mixing

1. Clean clothing -- long sleeves, full skin coverage, closed at neck and wrists and pants legs outside boots.
2. Waterproof gloves with long, tight-fitting wrists.
3. Wide-brimmed hat.

4. Waterproof boots.
5. Approved respirator with the right cartridge, when mixing dust or wettable powder (wp).
6. Safety goggles.
7. Rubber or plastic apron.

POINTS TO REMEMBER

1. Always wash clothing after each day's use. The body can absorb pesticide poisons from contaminated clothing if reworn before washing.
2. Always wash boots and gloves after each use.
3. Change filters in cartridge-type respirators after eight hours use or sooner if breathing becomes difficult or if pesticide poison odor can be detected when mask is properly worn.
4. It's your choice -- sickness or death -- if no protective measures are taken.

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. Protective clothing and equipment needed depends on the job you are doing.
2. It is dangerous to wear clothing that has not been washed since you last used poisons.
3. Gloves and boots must be washed with soap and water after each poison application.

SAFE MIXING PROCEDURES

The greatest danger to you is when you mix the poison. You must be very careful not to breathe the poison, get it on your skin, or in your eyes.

Mixing Poisons Properly

1. Protect your skin --
   a. Wear a long-sleeve shirt and long pants.
   b. Button shirts at neck and wrists.
   c. Wear a wide-brimmed hat.
   d. Wear waterproof boots.
   e. Wear waterproof gloves that fit around wrists.
   f. Wear safety goggles to protect your eyes.
   g. Wear a plastic or rubber apron.
2. To keep from breathing the dust when mixing dust or wettable powder (wp) wear an approved respirator.
3. To mix, put water in the spray tank until it is about half-full.
4. Measure the amount of poison needed and slowly pour it into the spray tank. Be very careful -- Do not spill or splash. NOTE* Put the measuring cup in a larger container so that if it runs over, the poison will not spill on the ground.

5. Always stand with your head well above the fill hole of the spray tank when mixing to keep from splashing it on your face and eyes. Keep the wind from blowing any of the poison on you.
6. Rinse the measuring cup three times with about one-half cup of water and pour into spray tank.
7. If you use the whole can of poison, rinse the empty can three times with about one-half can of water and carefully pour into the spray tank.
8. Carefully fill the spray tank with the amount of water you need. Do not run it over.
9. Put all poison cans and bags back in the sotrage building and lock it.
10. Always have someone with you. In case of an accident, they can assist you.
12. If you spill some of the poison --
    a. Remove poisoned clothing.
    b. Wash yourself with soap and water.
    c. Clean up poison spilled on the ground or equipment.

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. Mixing the poison is the most dangerous part of your job.

2. Mixing must be done carefully so that you do not splash poison on your skin or equipment.

3. Poison must be removed immediately from you, your equipment and the area if the poison is spilled.

APPLICATION PROCEDURES

You are the only one who can keep yourself safe when you are applying poisons. Work safely. Know the dangers of the poisons you are using and how to keep yourself from being poisoned.

Keep These Points in Mind

1. Don't apply poisons more often than they are needed. Look at the plants to see if there are enough insects to make it worth your time and money to apply poison. Wait until poison is needed. Your County Extension Agent can advise you on timing of poison applications.
2. Read all labels for every pesticide poison you use. Don't rely on your memory.
3. Wear clean clothing every day.
4. Do not carry food, cigarettes, or smoking equipment in your pockets when you are applying poison.
5. Never smoke, eat, or drink while applying pesticide poisons.
6. Change your work clothing after leaving the field, Bathe and change clothing before doing other chores. (Don't forget to wash your head and hair.)

7. Wash your skin immediately with soap and water if you spill pesticides on your skin or clothing.
8. If you splash poison in your eyes, flush them with plenty of clear water.
9. Keep trouser legs outside of your boots.
10. When you apply highly-toxic pesticide poisons, have someone keep an eye on you.
11. Keep out of the spray drift.
12. Carry a can of water, soap, and paper towels on the spray rig in a box protected from the poison.

OTHER SAFEGUARDS

1. Don't apply pesticide poisons when the wind is so strong that the spray could blow into the next field.
2. Use pesticide poisons only for the purposes given on the label. Never use field poisons in and around your house.
3. If you are poisoned, take the pesticide poison container with you when you go to the doctor or hospital.
4. Use care when washing clothing with poisons on them. Don't wash them with other clothes.

WHAT DO YOU KNOW (Read each statement, Consider how it applies)

1. Keep your skin covered when applying pesticides.

2. Having someone keep an eye on you is a good idea when applying pesticides.

3. Reading the label each time you use a poison is a good idea because it tells you the safety measures to follow.

RE-ENTRY PRECAUTIONS

Re-entry means going back into a field after it has been poisoned. Going back too soon could harm you. It is important that you understand <u>when</u> and <u>how</u> it can be done safety.

THE FOLLOWING POINTS WILL HELP PROTECT YOU

1. Safe re-entry period -- the time <u>in days</u> that you must wait between poisoning and re-entering the field.
2. Re-entering -- Do not re-enter the field or permit others to do so for several days after poisoning. Read the label or ask your County Extension Agent what the safe re-entry period is.
3. Plan your work so that you will not have to go back into the field before it is safe.

<u>IF IT IS NECESSARY TO RE-ENTER THE FIELD SOONER THAN THE RECOMMENDED DAYS, YOU MUST</u> --

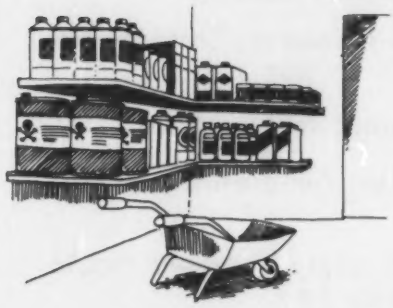
1. Wear a long-sleeve shirt and long pants.
2. Button shirt at neck and wrists.
3. Wear a wide-brimmed hat.

4. Wear waterproof boots with pants legs outside the boots.
5. Wear waterproof gloves with shirt sleeves over the glove wristbands.
6. Wear an approved respirator and safety goggles.
7. Change your clothes and take an all-over bath with soap and water as soon as you get out of the field. (Don't forget to wash your head and hair.)
8. Wash your boots and gloves with soap and water.
9. Wash your clothes before wearing them again. (DO NOT WASH THESE CLOTHES WITH OTHER CLOTHES)

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. Re-entry times are important to some people, especially you.
2. Use of proper protective equipment will allow you to safely re-enter poisoned fields.
3. Re-entry times are different for many poisons and depend on the crop or areas used.

CLEANING UP AND GOOD HOUSEKEEPING



Keep the storage building clean and in good order -- good housekeeping -- a place for everything and everything in its place.

THESE POINTS CAN IMPROVE YOUR OPERATIONS

1. Make certain that plenty of soap and water are available so that you or any worker can immediately wash off spilled pesticide poisons.
2. Watch for leaky containers, damp spots on the floor, and loose caps or bungs. Correct any of these dangerous conditions immediately.
3. Have supplies such as common household detergents, lime, and sawdust handy for cleaning up spills.
4. Dispose of empty pesticide poison containers. Don't keep them lying around.
5. Keep protective clothing and safety equipment such as waterproof gloves, boots, jackets, trousers, aprons, hats, goggles and respirators handy to use during cleanup and emergency situations involving pesticide poisons.

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. Good housekeeping is needed for pesticide safety.
2. Supplies should be on hand for cleaning up spills.
3. Protective clothing and safety equipment should always be used on clean-up jobs.

PESTICIDE DISPOSAL

Safe disposal of waste pesticide poisons and empty containers is a big part of your job.

FOLLOW THESE RULES TO MINIMIZE DISPOSAL PROBLEMS

1. Buy only the amount of poison you need for the season.
2. Mix only as much pesticide poison as you need for a particular job. If you mix too much, it is better to go ahead and apply all of it to the crop you are spraying. Do not dump it on the ground.
3. Rinse the empty container three times with about one-half the container of water and pour the rinse into your spray tank.
4. After rinsing, containers can be punctured, crushed or broken and buried 18 inches deep in a well-drained location away from streams and water supply. Ask your County Extension Agent what to do with waste pesticide poisons.
5. Store leftover pesticide poisons until the following year in your locked storage building.

WHAT DO YOU KNOW (Read each statement, Consider how it applies to your job)

1. Empty pesticide poison containers can be disposed of safely after rinsing and draining them three times with the right amount of water.

2. Empty pesticide poison containers should never be used for storage of feed or food, raft or pier floats, or watering troughs.

3. It is cheaper and safer to buy only enough poison for one season.

PESTICIDE POISONING SIGNS AND WHAT TO DO ABOUT IT

The signs of pesticide poisoning may resemble fatigue or other common condition or illness. However, you can protect yourself by knowing and being alert to the early warning signs of poisoning.

LOOK FOR THESE SIGNS OF SICKNESS

IF YOU FEEL SICK -- GO TO YOUR DOCTOR

Headaches - dizzy spells - nervousness

Sudden weakness - sick stomach - cramps

Vomiting - diarrhea - heavy sweating

Watery eyes - salivating - skin rash

Breathing difficulty - fits - coma

WAYS YOU CAN BE POISONED -- HOW TO PREVENT IT

Toxic chemicals may enter the body in three ways. They are listed below along with preventive measures and what to do about it.

1. Through the skin -- Use protective equipment to keep chemicals off the skin. If you get some on you, immediately wash all contaminated skin areas thoroughly with soap and water. Also change clothing. If you get some in your eyes, rinse thoroughly with clear water.

2. Swallowing -- Wash hands and face thoroughly before eating, drinking and smoking. If poisons are splashed into mouth, rinse out with plenty of water and go to the doctor immediately. If poison is swallowed, give one tablespoon (1/2 ounce) of syrup of ipecac. Do not wait for vomiting. Immediately go to physician. If you do not have syrup of ipecac, use one tablespoon of salt in a half glass of water. Go immediately to physician. Do not wait for vomiting - Do not give anymore salt water.
3. Breathing -- Use approved protective equipment. Wash respirators with soap and water after each use and change filter cartridges and cannisters every day or more often if you can smell the pesticide poisons.

OTHER RECCOMMENDED ACTIONS

When poisoning is suspected, take these steps:

1. Describe signs to your doctor (or veterinarian when animals are involved) as well as possible. Take the pesticide poison container with you to your doctor's office.
2. Report poisonings to county extension agent.

3. Be prepared. Have soap and water readily available where poisons are being used. Update listing and telephone numbers of your doctor, poison control centers and other helpful sources.
4. Let doctor know what poison you plan to use ahead of time.
5. Be prepared to give artificial respiration if victim stops breathing.

WHAT DO YOU KNOW (Read each statement. Consider how it applies to your job)

1. Poisoning symptoms resemble other illnesses.
2. You may save your own life by knowing how you feel when poisoned and knowing what to do about it.
3. Immediate action on your part, based on prior knowledge, can be extremely helpful in the event of a poisoning.

EMERGENCY PROCEDURES FOR SPILLS AND FIRE

Poison spills and fires present a special hazard to you and to the environment because they occur as uncontrolled events. You must take action -- use good procedures and proper equipment to bring the situation back into control. Stay ready -- have a plan that will keep you ahead.

WHEN A SPILL OCCURS

ASK YOURSELF THESE QUESTIONS

1. Was anyone poisoned?
2. What poison and how much was spilled?
3. Do you already have a plan for cleaning it up?
4. Do you need someone else to help?
5. Did other materials get poison spilled on them.

PLAN OF ACTION

1. If someone was poisoned, see to it that they wash up or rinse off immediately -- then get them to a doctor.
2. Take the steps that allow you to clean up the poison with the least harm to you, or to those who are helping you. Don't poison other materials or the environment.

3. Make sure that only those who are helping in the clean-up are allowed in the contaminated area.
4. Provide those who are helping you with protective clothing like waterproof gloves, clothes and footwear. In some cases, respirators and other equipment may be necessary.
5. Use cat litter or clay, sawdust, soda ash or an absorbent cleaning compound to soak up the spilled poison.
6. Sweep and shovel all the contaminated material into a fiber container.
7. Cover the container.
8. Wash the contaminated area with a full-strength liquid chlorine bleach solution. Use a long-handled brush or broom. (Don't forget to dispose properly of clean-up equipment too when the operation is completed.)
9. Thoroughly flush the poisoned area with water. If the poisoned area is made of wood it may be difficult to remove the odor. Replacement is recommended.
10. Dispose of the container by burning it in a commercial incinerator used for that purpose or bury it in soil at least 18 inches under the surface. Make sure that it is not placed in the groundwater. Consult with your

county extension agent who can advise you further when the above procedures are not practical.

11. Insure against the contamination of streams or ponds that serve as sources of drinking water supplies for people or animals.

PRECAUTIONS IN CASE OF FIRE

1. Inform fireman that poisonous materials are involved.
2. Many pesticide poisons also pose the hazard of exploding when in a fire.
3. Use foam, dry chemicals, carbon dioxide to fight pesticide fires. Water sprays should be discouraged because they will spread the contaminated area. Use water in the absence of other fire-fighting coolants.
4. Keep upwind and out of the smoke as much as possible unless you use a respirator and protective equipment.
5. Warn people who are downwind that poisonous materials are involved. Evacuation may become necessary.

WHAT DO YOU KNOW (Read each statement. Consider how it applies and how you would answer.)

1. Spills cause emergencies that can be brought back into control through sound practices.
2. In emergencies planning ahead can help reduce hazards and may also save time.
3. Fires can pose special hazards and must be dealt with in a special manner.

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APPENDIX A

SOURCES OF INFORMATION

1. Regional Administrators, Region Offices, U. S. Environmental Protection Agency
2. County Extension Agent
3. State Department of Agriculture
4. State Health Department
5. Poison Control Centers
6. Local fire, health, police agencies
7. Local or area Pesticide Dealers or Manufacturers
8. Local physicians and veterinarians